

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON 25, D. C.

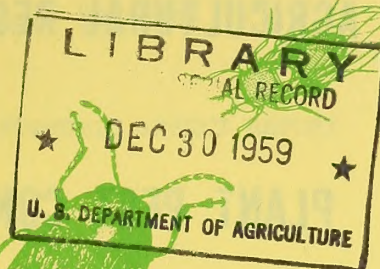
Official Business

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE



67
C78
1.2
VOL. 9 NO. 51

DECEMBER 18, 1959



Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Season's Greetings

Highlights of Insect Conditions

Annual SOUTHWESTERN CORN BORER survey in Missouri and CHINCH BUG hibernation survey in Kansas is reported. (p. 1049).

FALL CANKERWORM emergence reported in Indiana, Pennsylvania and Connecticut. (p. 1050).

CORRECTIONS (p. 1052).

INSECTS not known to occur in the United States. (p. 1053).

DISTRIBUTION MAPS - Special distribution maps on important insect pests, mostly introduced species, have been carried in the CEIR for several years. The maps have recently been revised and combined in a single compilation of 43 pages involving 82 species. This compilation is available on request to Survey and Detection Operations. Other special material available includes "Insects Not Known to Occur in the United States" and "Survey Methods."

Reports in this issue are for the week ending December 11, unless otherwise indicated.

WEATHER OF THE WEEK ENDING DECEMBER 14

Mild temperatures covered all sections of the Nation this week, with the exception of central California and Oregon, portions of the northern Plateau States and the extreme Southeastern States where frost and freezing temperatures extended southward to central Florida early in the week.

Precipitation west of the Cascades in Washington and Oregon was moderate to heavy, with 2 inches or more along the coast, and rain extended southward to central California late in the week. Showers at midweek in southern California and the Desert Southwest left up to 1/2 inch of water, with some locally heavier amounts, and a developing storm late in the week brought snow from Nevada and the mountains of central Arizona to New Mexico, western Texas and Oklahoma and northward to Wyoming. Ten inches of snow covered the ground at Albuquerque, New Mexico, by Tuesday morning. Yuma, Arizona, received 0.65 inch of rain this week, exceeding the 0.56 inch measured there since January 1. Extreme drought continues to plague the Southwestern States, however, and is particularly severe over Utah and Nevada.

Unseasonable warmth covered the Great Plains States as maximum temperatures reached into the 40's and 50's on most days as far north as Montana, the Dakotas, and Minnesota, into the 60's in Oklahoma, and the 70's to 80's in south Texas. General freezing minimum temperatures reached as far south as southwest Texas, but remained in the teens and 20's in the northern areas and well above the freezing mark in the southern portions most of the week.

Precipitation was very light over the Great Plains with little or none reported in most areas. Precipitation in the past 6 weeks over parts of the central Great Plains has been very light. Goodland, Kansas, for example, has reported only a trace since October 30. Heavy precipitation accompanied the passage of a low-pressure area from Texas and Oklahoma northeastward to New England late in the week. Weekly totals of more than 1 inch were reported in the area from Arkansas through the Ohio Valley and central Great Lakes to Pennsylvania, New York and New England, as general rains fell in the Ohio and Tennessee Valleys almost without interruption from Thursday night through Saturday, and in the Northeastern States on Saturday and Sunday. Local totals exceeded 4 inches in Arkansas and 2-4 inches in the Northeast. Locally moderate snow was recorded in the Appalachians, west of the Appalachians and northern New England. Temperatures were generally mild and unusual warmth was experienced in New England as temperatures were above normal for the third consecutive week from the Middle Atlantic States northward. The temperatures reached 61° late Saturday and early Sunday at Boston and 58° at New York.

Cold temperatures in the Southeastern States early in the week were replaced by warmer weather at midweek, but cooler readings returned over the weekend. Precipitation was moderate to heavy over all sections except the peninsula of Florida, where generally light totals were reported, with none along the southeast coast. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - TEXAS - None found in small grain fields checked in 10 counties in north central and west cross timber areas. (Hawkins).
OKLAHOMA - Populations continued low throughout central and south central areas, with no significant increase noted over previous weeks. A higher percentage of fields checked were found infested than during the previous week. Hymenopterous parasites were common in fields in south central area, but their effectiveness in reducing greenbug populations will depend on temperatures in the next few weeks. (VanCleave). Counts ranged 1.5-3.5 per linear foot in 5 wheat fields in Hennessey area (Owens) and 0.1-1.1 per linear foot in 6 out of 7 fields of small grain checked in Bryan, Marshall and Jefferson Counties (Vinson). Counts averaged 3 per linear foot in one of 3 fields checked in Cotton County and none noted in 4 other fields checked in Tillman and Jackson Counties. (Hatfield). None noted in wheat field checked in Jackson County and in 3 wheat fields in Greer County. (Presgrove, Hudson).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Counts ranged 0.5-6 per linear foot in 4 of 7 small grain fields checked in south central area (Vinson) and averaged 2 per sweep in a wheat field checked in Jackson County (Presgrove). None noted in 7 fields checked in southwestern area and 7 checked in central area. (Hatfield, Hudson, Owens, Pela, Chandler).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Populations generally low or not detected in small grain fields in central, south central and southwestern areas. (VanCleave et al.).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Infestations medium to heavy in Johnson and Cook Counties. (Hawkins). Causing damage to small grain fields in Hunt, Kaufman, Rockwall, Collin and Ellis Counties. (Davis).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSOURI - The 1959 survey was conducted in portions of 3 crop reporting districts (southwest, west and central). The counties with the highest percent girdled stalks were all in the extreme southwestern area. A total of 20 counties were surveyed, 5 fields per county. The average percent of girdled stalks by counties is as follows:
Barry - 9.6, Lawrence - 4.4, Jasper - 2.8, Newton - 3.8, McDonald - 13.6, Stone - 2.4, Hickory - 0.4, St. Clair - 0.8, Cedar - 1.4, Vernon, 3.2, Bates - 0.2, Henry - 0, Johnson - 0, Cass - 0, Christian - 2.0, Green - 7.4, Barton - 2.4, Dade - 1.4, Polk - 1.0 and Dallas - 0.2. (Kyd, Thomas, Munson).

CHINCH BUG (Blissus leucopterus) - KANSAS - Results of annual hibernation survey conducted in 54 counties during November and December show that populations were noneconomic in 41 counties (8-247 bugs per square foot), light in 8 counties (277-441 per square foot), moderate in 4 counties (505-800 per square foot), severe in Sedgwick County (1544 per square foot). (Bell, Guldner, Peters).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - None noted in 3 alfalfa fields checked in Choctaw County. (Goin). Counts averaged 0.2 per sweep in Jackson County (Presgrove) and are increasing slightly (averaged 12 per linear foot) in field of fall-seeded alfalfa in Bison area (Owens).

FRUIT INSECTS

A BAGWORM (Apterona crenulella) - UTAH - Cases, by the thousands, are attached to cherry tree limbs and twigs in an orchard east of Spanish Fork, Utah County. Each case contains 6-12 larvae, apparently first instar. (Knowlton, Davis).

A NITIDULID (Stelidota geminata) - CALIFORNIA - Heavy in dropped sapote and figs in Encinitas, San Diego County. (Cal. Coop. Rpt., Oct. 23). Records of this species in the State are August 6, 1957, July 8, 1958, and October 21, 1959, in Orange County and October 7, 1959, in San Diego County. It is believed that this beetle has become established in the State. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

COWPEA WEEVIL (Callosobruchus maculatus) - CALIFORNIA - Heavy infestation in black-eyed peas in Ducor, Tulare County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Light to heavy infestations on cabbage in Dimmit County. (Harding).

WESTERN BLACK FLEA BEETLE (Phyllotreta pusilla) - TEXAS - Heavy, widespread infestation on turnips in Dimmit and Zavala Counties. (Harding).

THRIPS (Thrips tabaci, Frankliniella occidentalis) - TEXAS - Light to medium in onion seedbeds with an average of 1-5 per plant in Dimmit County. Some scarification is evident. (Harding).

STRAWBERRY CROWN MOTH (Ramosia bibionipennis) - CALIFORNIA - Medium infestations in raspberry plants in Vallejo, Solano County, and heavy infestations on loganberry in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

FALL CANKERWORM (Alsophila pomataria) - INDIANA - Emergence continued and increased through December 10 in Lafayette area. Heavy flight of males noted on December 4. (Chandler). PENNSYLVANIA - Adults seen flying in woods in Perry County (Balsbaugh) and males and females appear to be fairly heavy in forest areas in Dauphin and Perry Counties (Sleesman, December 2). CONNECTICUT - Males and females numerous in woodland in Branford and on shade trees in New Haven on December 12. (Johnson).

LODGEPOLE NEEDLE MINER (Recurvaria milleri) - CALIFORNIA - Infesting an area of about 200 acres in Inyo County; severely damaging lodgepole pine. The moth has a two-year cycle and the next flight is due in July and August of 1960 in this area. Continued infestations may result in the defoliated trees dying, especially if Dendroctonus monticolae moves in on the weakened trees. (L. O. Hayes, G. Struble, E. B. Eaton).

A PYRALID (Aglossa caprealis) - CALIFORNIA - Medium infestation in old palm blossoms in San Bernardino, San Bernardino County. (Cal. Coop. Rpt.).

A NYMPHALID (Euptoieta claudia) - SOUTH CAROLINA - Larvae almost completely destroyed a pansy patch at Anderson in early November. Losses will amount to several hundred dollars. Specimens determined by H. W. Capps. (Nettles et al.).

A NOCTUID (Prodenia sp.) - CALIFORNIA - Heavy leaf damage by Prodenia sp., probably P. ornithogalli, to begonias in Lemon Grove, San Diego County. (Cal. Coop. Rpt.).

MITES - CALIFORNIA - Phytoptus hedericola adults medium on Hahns ivy in Colma, San Mateo County, and Aculus linguistri heavy on privet on a property in Millbrae, San Mateo County. (Cal. Coop. Rpt.).

AN APHID - OKLAHOMA - Undetermined species heavy on some ornamental pepper plants in the southwestern area. (Hatfield).

INSECTS AFFECTING MAN AND ANIMALS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Counts averaged 3 per animal on 52 beef cows checked in Pushmataha County (Goin) and 21 head checked in Bryan County (Vinson), 9 and 16 per animal in 2 groups of cattle checked in the Altus area (Hatfield), ranged from 3-5 per animal on cattle checked in Hobart area (Hudson) and averaged 11 per animal in 30 yearling steers in Canadian County (VanCleave).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Counts averaged 6 per animal on 52 beef cattle checked in Pushmataha County; 20 per animal on 57 cattle and 35 per animal on 6 horses in Le Flore County. (Goin).

BED BUG (Cimex lectularius) - TEXAS - Annoying residents in Bryan. (Garner).

BLACK WIDOW SPIDER (Latrodectus mactans) - UTAH - Causing concern to homeowners at Provo, Springville and Spanish Fork. (Knowlton).

STORED-PRODUCT INSECTS

A FLOUR BEETLE (Tribolium destructor) - CALIFORNIA - Heavy populations of adults in a warehouse in San Francisco, San Francisco County. (Vector Control).

RICE WEEVIL (Sitophilus oryza) - TEXAS - Medium infestation in 2,000 bushels of stored grain in Fayette County. (Turney).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - TEXAS - Medium infestation in 2,000 bushels of stored grain in Fayette County. (Turney).

AN APHID (Rhopalosiphoninus sp.) - WASHINGTON - Moderate infestation on tulip bulbs in storage at Sumner. (Doucette).

FOXGLOVE APHID (Myzus solani) - WASHINGTON - Moderate infestation on sprouts of tulip bulbs in storage at Sumner. (Doucette).

TULIP BULB APHID (Anuraphis tulipae) - WASHINGTON - Moderate to heavy infestation on iris bulbs in storage and a few found on tulip bulbs in storage at Sumner. (Doucette).

BENEFICIAL INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Present in very limited numbers in approximately one-fourth of the small grain fields checked in central, south central and southwestern areas. (Owens, Pela, Chandler, Vinson, Hatfield, Presgrove, Hudson).

PARASITES - OKLAHOMA - Hymenopterous parasites are active and common (0.1-1.5 per linear foot) in most small grain fields checked in south central area. (Vinson, Hatfield).

MISCELLANEOUS INSECTS

A SHIELD BEARER CRICKET (Platycleis tessellata) - CALIFORNIA - Specimens collected in July and reported as abundant in the Timbuctoo area of Yuba County. This is the first record in this county. (J. Helfer).

NITIDULIDS - CALIFORNIA - Carpophilus hemipterus, C. dimidiatus and Haptoncus luteolus infesting fruit dumps in heavy populations in Clovis area of Fresno County. All stages were present. (Spittler, Yearington).

CLOVER MITE (Bryobia praetiosa) - UTAH - Entering dozens of homes in Salt Lake City area and elsewhere in Salt Lake County. (Knowlton, Parrish).

A BROWN DOTTED CLOTHES MOTH (Acedes fuscipunctella) - CALIFORNIA - Heavy adult population in a house in Potrero, San Diego County. (Cal. Coop. Rpt., Dec. 4).

CORRECTIONS

CEIR 9(49):1030 - A SCARAB (Gronocarus autumnalis) - FLORIDA - Change collection date to November 16.

CEIR 9(44):964 - HARLEQUIN BUG (Murgantia histrionica) - WISCONSIN - Delete portion of note that states "As far as can be determined, this is the first record of this species for the State". Records have been found in the literature that show this species had previously been collected in Wisconsin.

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Perid. marg.	Feltia subterr.	Laphygma frugiperda	Heliothis zea
FLORIDA						
Monticello 12/3	1					
SOUTH CAROLINA						
Clemson 12/5-11	1	5	2			1
TEXAS						
Brownsville 11/3-13	4	5	1	2	12	

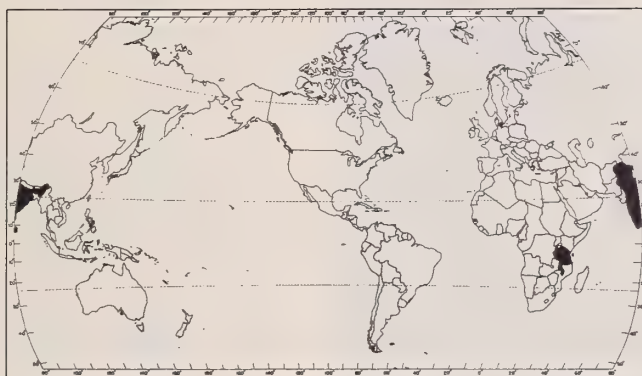
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

MAIZE AND JOWAR BORER (Chilo zonellus (Swinhoe))

Economic Importance: This crambid borer is a very serious pest of corn and sorghum in areas of India and Pakistan; perhaps the major pest of those crops in that area. Damage can be quite severe, with infestations in corn and sorghum ranging from 2.6 to 24.3 percent annually in India and reaching as high as 20 percent in the Loghman Valley of Afghanistan. During 1957 and 1958, infestations caused moderate to severe injury in West Pakistan. This species has been recorded under several former names, the one of greatest importance being Chilo simplex; however, since 1928 this species has been considered distinct. Chilo suppressalis (also previously known as C. oryzae) was also recorded as C. simplex prior to 1928. Consequently, older literature records may be in reference to both C. suppressalis and C. zonellus.

Distribution: Known to occur in India, Pakistan, Afghanistan, Ceylon and Sikkim in Asia and Tanganyika and Nyasaland in Africa.

Hosts: Corn and sorghum are preferred hosts. Sugarcane is attacked only when it is grown adjacent to corn and sorghum. Additional recorded hosts are ragmillet, goosegrass, pearl millet and Jobstears.

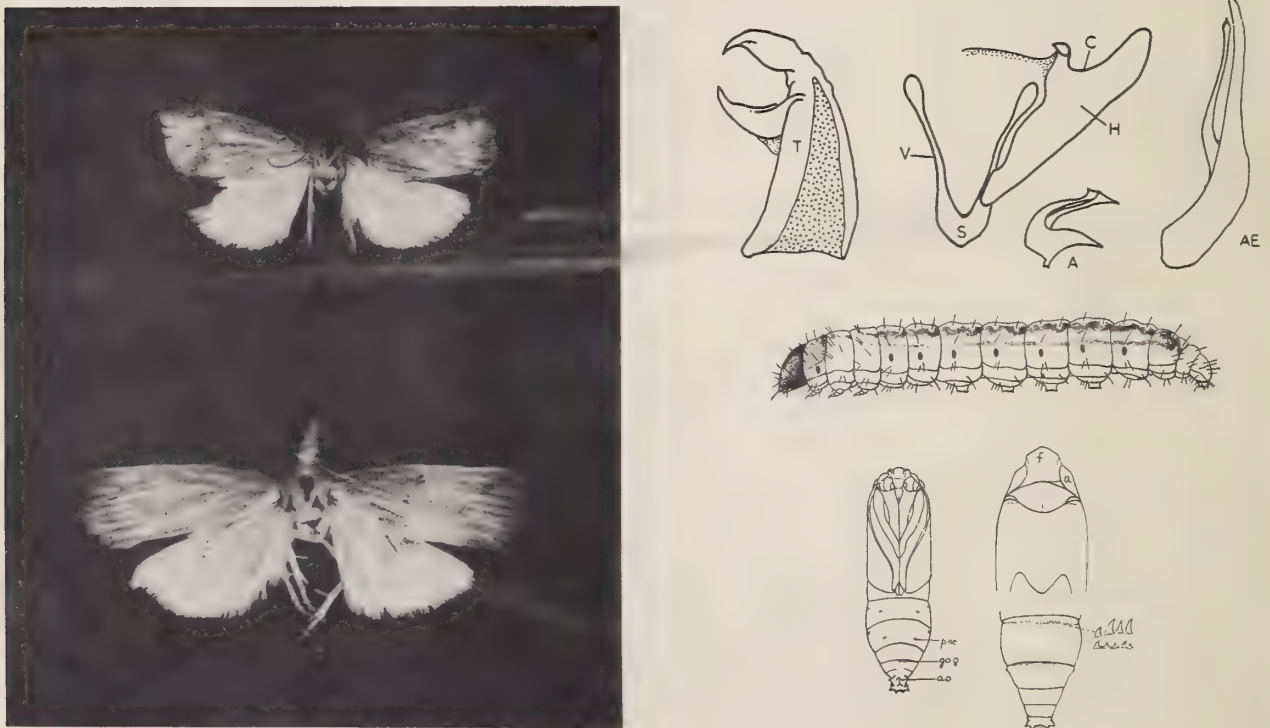


General Distribution of Chilo zonellus

Life History and Habits: The biology of C. zonellus as observed in India is as follows: The adults are nocturnal and short-lived. Maximum emergence of adults begins when the temperatures reach 86-90° F. Eggs are laid in clusters of 10-36, within 2-5 cm. of the leaf base, and hatch in 2-4 days. Each female will lay about 100 eggs. The larvae pass through 5 instars in 15-31 days. Young larvae begin feeding on the leaf tissues, sometimes mining them, and later, when they become more mature, bore into the stalks or cobs of corn. Larval borings in the stalks may cause the plants to bend, twist over and produce branches. "Deadhearts" are commonly encountered in young plants. Ears are also damaged. The larvae may migrate from plant to plant. Pupation takes place in the stems of the plants and lasts from 2-9 days. A total of 6-7 overlapping generations are reported. The total duration of the life-cycle is 29-33 days in the summer and as much as 83-210 days in the winter. The insect hibernates as a mature larva in the stems, stubble and cobs of corn, and the stems and stubble of sorghum. In corn, the stubble seems to be preferred for hibernation, while in sorghum, the stems are preferred. Plantings of corn made between July 15 and July 30 are about twice as heavily infested as those made 4-6 weeks later. Larvae prefer the younger plants. Outbreaks in Nyasaland have been associated with low rainfall years.

Description: ADULT - Male: Forewing whitish-brown to straw-colored, with dark brown to piceous scales usually forming a streak on costa; three rather diffuse spots on disk and a shadowy band running from apex towards center of hind margin

but stopping halfway. Series of spots on termen small, usually entirely piceous or black; fringe slightly darker near base. Hindwings very light straw-colored. Frons conical, with a distinct corneous point; ventral surface not flattened, but smooth and without a ridge. Labial palpi two and one-half times length of head, covered with dark brown to whitish scales. Wing expanse 21-26 mm. Female: Usually much larger than male; forewing much lighter in color, with darker scales sparser and more diffuse; bands usually indistinct. Hindwing whitish. Wing expanse 28-30 mm. C. suppressalis is distinguished from C. zonellus in that the ventral surface of the frons is partly flattened and produced as a ridge. LARVA - Length about 25 mm. skin well chitinized, setae well developed. Head prominent, reddish-brown, mandibles with 6 teeth, lower 3 being pointed. Prothoracic shield well chitinized and prominent, yellowish-brown. Four longitudinal stripes on abdomen, 2 sub-dorsal and 2 lateral. Striped reddish-brown. Coloration may vary, however. Posterior trapezoidal tubercles slightly more lateral in position than anterior trapezoidal tubercles. Spiracles closed (no clear space inside), elongate oval, and lie along lower margin of lateral stripes. Crochets on abdominal prolegs are arranged in complete circles. PUPA appears bent; color usually reddish-brown; eyes darker. Length of female 12.5-17 mm.; male 10.5-13 mm. Greatest width of female 3-4 mm.; male 2.5-3 mm. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies.). CEIR 9(51):12-18-59.



Figures: Left, male and female of C. zonellus; upper right, male genitalia of C. zonellus; right center, larva of Chilo sp.; lower right, ventral and dorsal views of C. zonellus.

Major references and figures (except map): Larva of Chilo sp. from Fletcher, T. B. (Editor). 1919. Report of Proceedings of Third Entomological Meeting, Pusa, India, Feb. 3-15, 417 pp. Pupal characters of C. zonellus from Isaac, P.V. and Venkatraman, T.V. 1941. Indian Jour. Agr. Sci. 11(5):804-815. Male genitalia from Jepson, W.F. 1954. A Critical Review of the World Literature on the Lepidopterous Stalk Borers of Tropical Graminaceous Crops. 127 pp., London. Description of male and female of C. zonellus from Kapur, A.P. 1949. Roy Ent. Soc. London Trans. 101(11):399.

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON 25, D. C.

Official Business

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE



